



IBASIS
NETEZZA IN ACTION

iBasis Leverages Netezza's Data Warehouse Appliance for Operational BI

World-leading provider of international VoIP network services uses Netezza to run real-time, complex CDR analyses on approximately 150 million transactions each day.

Founded in 1996, iBasis (NASDAQ: IBAS) carries roughly 24 billion minutes of global voice-over-IP (VoIP) traffic through its network of 100-plus countries each year, making it one of the world's largest carriers of international voice traffic and a leading provider of prepaid calling services. iBasis' finance, billing, operations and sales departments rely heavily on the ability to make effective decisions based on the most current conditions and demands in the market.

The Breaking Point

"We had two problems," explained Paul Floyd, senior vice president of R&D, engineering and operations at iBasis. "One was handling the scale of the data warehouse. The second was pushing data into that warehouse."

With call volumes and data analysis needs growing by 30 to 40 percent each year, iBasis' already taxed infrastructure was straining under the pressure. Its three and half year old data warehouse, built on EMC, Oracle and Sun Microsystems, consumed 18 to 24 hours to load and analyze the data needed to deliver enterprise-critical reports on revenue, margins, network traffic and quality. Too many aggregate tables and indexes were required to make the system perform adequately, and they had to be rebuilt after each load. As a result, queries ran very slowly and reports could only be delivered once per day. This eliminated the possibility for real-time analysis – a lethal problem in today's data-intensive telecommunications environment.

iBasis' existing environment was becoming increasingly difficult to manage and performance suffered when the company tried running complex BI reports on the same platform as its day-to-day operations. The legacy Oracle environment could not accommodate the various needs of different organizational users. "We have several groups with very different needs," explained Mark Saponar, iBasis' vice president of information systems. "This includes external customers – telecommunications providers – that contract for the iBasis capabilities. Another is the market analysis group, and a third is the company's sales group."



Applications:

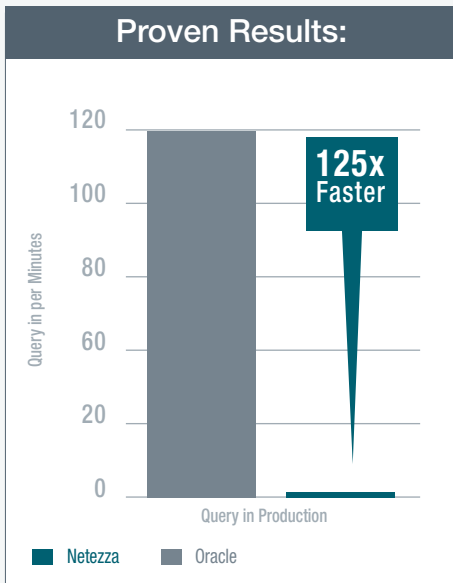
- Operational BI on CDR Data

Solution Benefits:

- Complex CDR analyses on 150M records in real time
- Better, faster decisions on pricing and network management
- Analyses reduced from hours/days to seconds
- Rapid implementation with existing environment
- Scalability to accommodate 30-40% annual call volume growth
- Single source of information to meet enterprise-wide demands
- Administrative savings; redeployment of two full-time employees

"Our sophisticated back office systems have enabled us to turn complexity into competitive advantage... The Netezza system will be a vital tool in accelerating future improvements, growth and profitability."

Paul Floyd
Senior Vice President
R&D, Engineering and Operations
iBasis



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Mark Saponar
Vice President
Information Systems
iBasis

Additionally, iBasis’ existing data mart could hold only one year of call detail records (CDRs) and three years’ worth of summarized data, compromising the company’s ability to do comprehensive trend analyses. Ultimately, the complexity, poor performance and data latency issues within iBasis’ legacy environment meant that managers throughout the enterprise were unable to make decisions based on the most accurate information on their business and the market. According to Saponar, “We’re now handling between 140 million and 150 million transactions per day, so our growth rate led our old technology to become slower and slower.”

An Alternative Approach: The Netezza Appliance

iBasis soon decided it needed a new solution to replace its entire data warehousing infrastructure. “The main reason for migration was we had a need for analyzing massive amounts of data. Every call generates five to six different transactions, which we’re analyzing in order to determine quality, margins and revenues,” stated Saponar.

The company began researching data warehouse appliances due to their reputation of delivering speed, simplicity and low cost in a single package. It decided to move forward with Netezza, the market pioneer and leader, who claimed to deliver 10 to 100 times the performance of traditional systems at half the cost, by leveraging commodity components and the “secret sauce” of its innovative streaming architecture to integrate relational database, server and storage into a compact, power-efficient unit.

Those claims were validated when iBasis engaged in a proof of concept with Netezza – all reports that took approximately two hours in the legacy environment were executed within one minute on the Netezza system – 120 times faster.

The system’s advantage is in its patented streaming architecture: Netezza has placed processing power next to the data, so data analysis occurs at the source at streaming speeds, delivering an unprecedented boost in performance. The appliance combines commodity hardware components with Linux and a high-performance database, resulting in a lower total cost of ownership, and the entire system comes in a self-contained, single-vendor rack that integrates easily into existing BI environments.

Moving Forward with Netezza

iBasis purchased a 9-TB Netezza appliance for production along with another development system. The company decided to employ Sunopsis DataConductor software (now known as Oracle Data Integrator) for its ETL solution, which is actually an “ELT” approach – meaning that data is extracted and loaded directly into the warehouse before performing any transformations to the data. This method is the perfect complement to Netezza’s massively parallel architecture, enabling orders of magnitude improvements in performance. “We are now pushing the transactions into the data warehouse in less than an hour,” Saponar said. “The benefits are really the combination of speed of transfer of the information as well as the very fast [Netezza] appliance for retrieval.”

iBasis’ new data warehouse solution was deployed in just 12 weeks. Netezza integrated seamlessly with both Sunopsis and the existing Business Objects BI platform. “Usually these types of projects are very painful, but in this case it was pretty straightforward,” commented Saponar. Keeping scalability in mind, iBasis was not concerned about the upgrade path with Netezza. “We can upgrade to a 22-TB device within 24 hours, and it’s all done in parallel with current processes,” Saponar stated. iBasis pursued such an upgrade, purchasing a 50-TB Netezza appliance, which moved quickly into production as planned.

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Mark Saponar
Vice President
Information Systems
iBasis

The company has also realized significant benefits due to the reduced administration offered by the Netezza system. Netezza training was completed in a single day, and iBasis has been able to redeploy two full-time employees since bringing in Netezza. Saponar continued, “Our data warehouse team consists of one to two employees that we need once every three months, to do small changes for release verifications.”

Optimizing iBasis’ Operational BI

Beyond the Netezza system’s ability to provide a scalable, high-performance appliance at a low TCO that can easily be deployed and maintained, Netezza has truly changed the way iBasis uses business intelligence (BI). Floyd testified to the importance of these analytics stating, “We have lots of decisions to make about network capacity and utilization on a rapid-fire basis. We also need to do analysis of our pricing relative to the cost of providing services.”

With Netezza, iBasis can monitor call data reports that aggregate an enormous amount of data in order to spot quality problems in real time. Those reports, which previously took several hours to several days to run, can now be executed in mere seconds. This ability to identify and track anomalies in real time is essential to enabling better pricing and network management decisions. Saponar described its Netezza data warehouse solution as “a massive compilation of analytics on data to determine what’s the best route for traffic, what’s the best quality, what’s the best margins and what’s the best profits of the company overall... If I can get a current view of my margin that’s up-to-the-second, it can completely change our view of the network and which provider we’re using.”

Netezza has given iBasis the ability to meet the needs of its different departments, providing the entire enterprise with the power to question everything. Floyd described the bottom line advantages delivered by Netezza by saying, “Our sophisticated back office systems have enabled us to turn complexity into competitive advantage by giving us the ability to manage call routing and rating of millions of international calls at a very high level of granularity. Deploying the NPS system enhances this ability while providing significant operating efficiencies. It will be a vital tool in accelerating future improvements, growth and profitability.” 



Netezza Corporation

26 Forest Street, Marlborough, MA 01752

+1 508 382 8200 TEL

+1 508 382 8300 FAX

www.netezza.com

About Netezza

Netezza (NYSE: NZ) is the global leader in data warehouse and analytic appliances that dramatically simplify high-performance analytics across an extended enterprise. Netezza's technology enables organizations to process enormous amounts of captured data at exceptional speed, providing a significant competitive and operational advantage in today's data-intensive industries including digital media, energy, financial services, government, health and life sciences, retail and telecommunications. Netezza is headquartered in Marlborough, Massachusetts and has offices in North America, Europe and the Asia Pacific region.

For more information about Netezza, please visit www.netezza.com.